

**Notice of Allowability**

Application No.

10/797,135

Examiner

Keith Hendricks

Applicant(s)

TAKEBE ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☒ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: JP 2003-067869.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Matthew Jacob on August 08, 2006.

Please amend the claims as follows:

**Claim 1.** A method for producing a soymilk curd having pudding- or bavaois-like textures comprising steps of: adding a protein cross-linking enzyme into acid-treated soymilk adjusted at pH 5.4 to 6.4 by adding an acid to the soymilk; allowing proteins in the soymilk to form cross-links by maintaining the temperature at 20 to 60°C; and allowing the cross-linked and acid-treated soymilk to coagulate by maintaining the temperature at 70 to 90°C.

**Claim 2.** A method for producing a soymilk curd having pudding- or bavaois-like textures comprising steps of: adding a protein cross-linking enzyme and sugars into acid-treated soymilk adjusted at pH 5.4 to 6.4 by adding an acid to the soymilk; allowing proteins in the soymilk to form cross-links by maintaining the temperature at 20 to 60°C; and allowing the cross-linked and acid-treated soymilk to coagulate by maintaining the temperature at 70 to 90°C.

**Claim 5.** A method for producing the soymilk curd according to claim 1, wherein the acid is any one of wine vinegar, apple vinegar [~~and~~] or Japanese plum brandy, or a mixture of two or more of them.

**Claim 6.** A method for producing the soymilk curd according to claim 2, wherein the acid is any one of wine vinegar, apple vinegar [~~and~~] or Japanese plum brandy, or a mixture of two or more of them.

**Claim 7.** A method for producing the soymilk curd according to claim 3, wherein the acid is any one of wine vinegar, apple vinegar [~~and~~] or Japanese plum brandy, or a mixture of two or more of them.

**Claim 8.** A method for producing the soymilk curd according to claim 4, wherein the acid is any one of wine vinegar, apple vinegar [~~and~~] or Japanese plum brandy, or a mixture of two or more of them.

**Claim 9.** A method for producing the soymilk curd according to claim 2, wherein the sugar is any one of trehalose [~~and~~] or multitose, or a mixture of trehalose and multitose.

**Claim 10.** A method for producing the soymilk curd according to claim 4, wherein the sugar is any one of trehalose [~~and~~] or multitose, or a mixture of trehalose and multitose.

**Claim 11.** A method for producing the soymilk curd according to claim 6, wherein the sugar is any one of trehalose [~~and~~] or multitose, or a mixture of trehalose and multitose.

**Claim 12.** A method for producing the soymilk curd according to claim 8, wherein the sugar is any one of trehalose [~~and~~] or multitose, or a mixture of trehalose and multitose.

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The following is an examiner's statement of reasons for allowance:

The claims are directed to a method for producing a soymilk curd by the specifically-recited steps, such that the resultant curd has pudding-like or bavarois-like textures. *Bavarois* is the French term for "Bavarian cream." As stated at page 5 of the specification, the soymilk curds of the invention "are different from the texture of usual soybean curd." Examples of commercially known soybean curd textures are silken and firm soybean curds.

Using a rheometer to test the properties of the resultant curds, Tables 2 and 3 of the specification show "that soymilk curd having a good pudding-like texture may be obtained by adjusting the pH at 5.4 to 6.4 by adding an acid to soymilk, and by cross-linking the proteins to coagulate soymilk." As

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explained at page 7 of the specification, the rheological value of commercially available pudding falls within the range of 28 to 35 when measured by the same method as in the test of the present invention, just as do the rheological values of the soymilk curds of the instant invention. Thus, this establishes a specific definition of the phrase “pudding- or bavarois-like textures.” “The pH is controlled in the range of 5.4 to 6.4 by adding the acid in soymilk because, when the pH of the acid-treated soymilk is less than 5.4, the soymilk curd obtained after the coagulation treatment becomes too hard, while coagulation of the soymilk curd obtained after the coagulation treatment is insufficient when the pH exceeds 6.4” (pg. 4, spec.).

Prior art processes somewhat similar to those of the instant claims were known, for example Matsuura et al. (US PAT 6,042,851). However, these do not provide the motivation to lower the pH to within the specifically-recited range of the instant claims, nor do they do not teach or suggest the instantly-claimed properties of the resultant curd. JP 58-028234 shows a method for preparing a protein raw ingredient by mixing a protein such as soybean casein with a transglutaminase in a pH of 6-8.5 at 40-120°C for 2-10 hours. However, this reference differs from the instant claims in that it (a) does not utilize soymilk as a starting material, but rather soy casein protein itself, (b) does not teach or suggest the distinct method steps of cross-linking and coagulation at two different temperatures, and (c) does not teach or suggest the instantly-claimed properties of the resultant curd. As stated at page 5 of the instant specification: “The optimum pH of transglutaminase is within a neutral pH range, and the pH of soymilk is also near the neutral pH of 7.0. Accordingly, soymilk is usually cross-linked with transglutaminase without adjusting the pH. However, soymilk curd having pudding and bavarois-like textures that are different from the texture of usual soybean curd may be obtained by cross-linking at a slightly acidic pH range of 5.4 to 6.4 followed by coagulation of cross-linked soymilk.” Not only does this knowledge of the prior art lack the necessary motivation to adjust the pH of the known process (for example that of Matsuura et al.), but it also provides an unexpected result regarding the texture of the final product. If any possible motivation to attempt to drop the pH may have existed (for example from JP '234), the unexpected properties demonstrated by the narrow pH range and the two-step process involving cross-linking and coagulation, prevail as unexpected results.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Hendricks whose telephone number is (571) 272-1401. The examiner can normally be reached on M-F (8:30am-6pm); First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
**KEITH HENDRICKS**  
**PRIMARY EXAMINER**